

ITEM NO.	DESCRIPTION	FLOW RATE
1	REVERSE OSMOSIS	80,000 GPD
2	COOLING TOWER	21,600
3	CIP CLEANING SYSTEM	54,000
4	MISC. CLEAN UP	74,400
5	BOILER BLOW DOWN - WATER SYSTEM	26,000
6	CAUSTIC CLEANING	24,000
7	PRODUCT COOLING	60,000
8	HIGH BOD TANK	10,000
	TOTAL	350,000 GPD

NO WASTE STREAM IS CLASSIFIED HAZARDOUS IN ACCORDANCE WITH 310 CMR 30.102.
 BOD EQUALIZATION IS ACCOMPLISHED THROUGH ITEM NO. 8.

THE AUSTIN COMPANY DESIGNERS • ENGINEERS • BUILDERS		TITLE DISCHARGE EFFLUENT FLOW DIAGRAM COCA-COLA - NORTHAMPTON, MA		PROJECT NO. PR-1025B
REV. BY JTB	DATE 11/19/95	DATE 11/19/95	REV. 001	PROJECT NO. PR-1025B

Raw Materials	Amount
1. Fruit-beverage concentrates	10,000 gpd
2. Containers	960,000 bottles (40,000 cases) per day
3. Sugar	12,000 gpd
4. Packaging Materials	40,000 cases/day

E. Description of Principal Wet Processes

The proposed facility will engage in production of non-carbonated beverages, covered by Standard Industrial Classifications (SIC) 2037 – Frozen Fruits and Vegetables and 2086 – Bottled and Canned Soft Drinks. Process-related water uses include the following:

1. Ingredient Blending
2. Product Sterilization
3. Container Cleaning
4. Product Filling
5. Product Cooling
6. Product Packaging

Drawing No. 001 – Discharge Effluent Flow Diagram (see Exhibit 1) shows the sources of process-related and other wastewater.

F. Description of Water Supply

The City of Northampton water system will be the source of supply for the facility. City water is delivered to the site from a 12-inch main on Industrial Drive. A portion of the water supplied will be treated by reverse osmosis and carbon filtration, as depicted on Exhibit 1. Projected water demands are shown on Table 1 for various phases of production. Phases I and II reflect the initial installation of two production lines in 1995. It is anticipated that early water requirements, over the first six months of operation, will be approximately one-half of the values shown on Table 1 for two production lines. Phase I and II water demands are not expected to exceed those of the previous plant operator, Mid-Atlantic Cannery Association (MACA), when that facility was in operation.

The City of Northampton's water supply consists of three surface reservoirs (Francis P. Ryan, West Whately, and Mountain Street) which supply approximately 85 percent of the system demand, and two wells. The combined safe yield of these sources has been estimated at 5.96 MGD (Anderson-Nichols & Company, Inc., "Report on Water Supply Treatment and Distribution," November 1989). Other reservoirs are available as back-up supplies for emergency use.

G. Identification of Wastewater Streams

The effluent flow diagram in Exhibit 1 identifies the sources of wastewater streams from the proposed facility, along with the estimated flow rates (at Phase II production capacity). None of the waste streams is classified as hazardous in accordance with 310 CMR 30.302.

The principal constituent in the wastewater will be BOD (largely fruit juices and sugar), incidental to the production processes. Average BOD loadings (lb./day) are estimated on Table 1 for initial and possible future production levels.

Suspended solids concentrations in the proposed discharge will be less than 100 mg/l and similar across all levels of operation. Other wastewater constituents will come from boiler blowdown, the reverse osmosis unit, cooling tower blowdown, and CIP solutions (acid and caustic cleaning).

Provision of flow and concentration equalization facilities will reduce the variability of discharge quantity and quality, thereby improving the treatability of the wastewater and avoiding shock loadings at the City of Northampton Wastewater Treatment Plant. The City's treatment plant is a conventional activated sludge facility with a design capacity of 8.9 MGD; flows currently average approximately 5 MGD according to the Pretreatment Coordinator.

H. Description of By-Product Recovery Systems

There are no by-product recovery systems as such. Bottling and other equipment is designed to minimize product spillage or loss.

I. Description of Wastewater Treatment Studies

The proposed pretreatment system consists of BOD and flow equalization storage and pH adjustment. The system will temper variations in flow, BOD and pH characteristics of the waste stream. Fluctuations will be further dampened during transit in the City sewerage system. The characteristics of the proposed wastewater discharge and pretreatment system were thoroughly discussed with Northampton officials prior to detailed facility design. No specific treatment studies have been performed other than those required for the proper sizing and design of tankage, pumps, meters, instrumentation, etc.

J. Description of Liquid Waste Flow Control Measures

The flow process and instrumentation diagrams for the proposed wastewater treatment system are detailed on Drawing No. PP-12.

The effluent will be collected in a lift station with level controls. At normal flows, a single pump will operate, transferring the effluent to the equalization basin. As flow rates surge, the 4-inch restrictor valve will open, and flows will increase from 500 gpm to 1,000 gpm. Two of the three pumps are electrically connected to alternate on-off. If the level continues

to rise in the sump, a third pump will start and increase the transfer rate to 2,000 gpm. As the level falls, the reverse operations occurs. The second pump will stop; the restrictor valve will close; and at low level the first pump will stop.

On P&ID PP-12, the high strength effluents from the first flush of the CIP (clean in place) cycle and off specification batches from production will be collected in the high BOD storage tanks, two at 6,000 gallons each, which are existing tanks.

Each storage tank will be fitted with a high level element. The tanks will be liquid connected at the bottom to equalize levels in each tank continuously.

A variable speed metering pump will be installed to meter the high strength BOD effluent to the lift station at 10-30 gpm.

K. Description of Existing Wastewater Treatment System

The proposed pretreatment system incorporates the two existing 6,000-gallon high BOD storage tanks and agitators (see Drawings No. PP-12 and P-5). Specifications for the existing tanks are included in Exhibit 2, pages S5 and S6.

L. Flow and Material Balance Diagram

The drawing in Exhibit 1 depicts the sources and estimated quantities of wastewater from the proposed facility. The tabulation of flows in the lower left corner of the diagram is reflective of expected maximum daily discharge at Phase II production levels (see Table 1). As production lines are added in the future, wastewater discharges will increase more or less proportionally from all sources.

Materials used in beverage production have been itemized in Section D above.

M. Description of Anticipated New Processes

The proposed pretreatment system will add flow equalization and pH adjustment facilities downstream of the existing high BOD storage tanks. Details of the pretreatment processes and operation are contained in the plans accompanying this application.

N. Description of Required Effluent Quality

The wastewater to be discharged from the bottling facility is amenable to conventional activated sludge treatment at the City of Northampton wastewater treatment plant and will contain no hazardous or other constituents that would adversely affect operation of that plant or sludge quality. Based on information previously submitted, the City recognizes the need to upgrade the aeration capacity of its treatment plant to handle the BOD loadings anticipated in later phases of production (1996 and beyond). The City's engineering

consultants are currently investigating the plant modifications necessary to ensure adequate BOD processing capacity

O. Evaluation of Alternatives Capable of Meeting Applicable Effluent Quality

Northampton's wastewater treatment plant has sufficient hydraulic capacity to handle projected wastewater discharges from the beverage production facility, and modifications are being planned to upgrade aeration capacity to handle expected future BOD loadings. The proposed pretreatment system is designed to maintain effluent pH within the ranges specified by City sewer use regulations, prevent slug discharges of high strength wastes and generally reduce the variability of effluent flow and quality. The compatibility of the proposed waste stream with conventional activated sludge treatment is such that alternative or more complex pretreatment processes are not necessary.

P. Recommended Plan for Wastewater Treatment Facility

The recommended plan for wastewater treatment is as follows:

1. Utilize existing high BOD storage tanks and agitators and install new metering system and control instrumentation.
2. Install new compartmentalized equalization tank to receive plant wastewater from all sources.
3. Install pH adjustment system including caustic (sodium hydroxide) and acid (phosphoric acid) storage tanks, metered feed system and control instrumentation.

The operation of the high BOD storage system was described previously in Section J.

The equalization basin consists of four chambers. The incoming wastewater enters the first chamber and underflows to the second chamber. This chamber contains an agitator which mixes the effluent into an homogenous solution.

A pH probe which is connected to a control system then measures the pH. If the pH requires adjustment, both a metering pump and a water flow control system turn on. Either phosphoric acid is added to decrease the pH or caustic soda is added to increase the pH. The second agitator (in the fourth chamber) provides mixing and pH adjustment prior to discharge of the wastewater.

The effluent is metered, pH is recorded, and a continuous sampler will draw a "weighted average" sample.

Flow rate surges will be reduced due to the 5,000-gallon reserve capacity in the lift station sump and 4,000 gallons surge capacity behind the Parshall flume flow element.

Peak BOD's will be reduced due to the metering system on the high BOD storage tank.

TABLE 2
DESIGN CRITERIA FOR PRETREATMENT
SYSTEM COMPONENTS

Description

High BOD Storage System

Number of Tanks	2 (existing)
Volume of Tanks (each)	6,000 gallons
Material of Tanks	T304 Stainless Steel
Agitation	
Type — Vertical mechanical	
Number per tank	1
Horsepower (each)	2 HP
Speed	58 RPM
Transfer Pumps (from tanks to lift station)	
Number of pumps	1
Type — External Spur Gear Pump	
Capacity	9-28 gpm
Speed	0-1,200 RPM
Horsepower	0.6 BHP

Lift Station

Wet Well Volume	5,000 gallons
Number of Pumps	3
Capacity (each)	1,000 gpm*

Equalization Tank

Number of Tanks	1
Volume	18,000 gallons
Material	in 4 4,500-gallon cells
Agitation	Concrete with epoxy lining
Number of agitators	2
Horsepower (each)	25

pH Adjustment

Acid and caustic dilution and feed utilizing two duplex piston metering pumps, controlled by output pulse feedback loop from pH probe in equalization tank.

*See Drawing No. PP-12 for description of sequencing and operation at different flow rates.

The proposed pretreatment system of flow (and BOD) equalization and pH adjustment is designed to accommodate the range of wastewater flow rates and variations that could be experienced upon reaching full capacity (Phase IV, four production lines as shown in Table 1). The pretreatment system is designed for a sustained hydraulic throughput of 700 gpm (1.0 MGD). Design criteria for the main system components are given on Table 2. More detailed specifications are included in Exhibit 2. The plans accompanying this application detail the layout, construction and operation of the proposed pretreatment system, addressing the items requested in the Department of Environmental Protection's Engineering Report Requirements outline.

Q. Implementation Schedule

Modifications to the Northampton plant are currently underway, with production scheduled for start-up in the Spring of 1995. Therefore, approval of the proposed pretreatment system and connection permit application as soon and quickly as possible is critical to maintaining the overall project construction and operation schedule.

TABLE 2 (cont.)

Effluent Measurement

Flow Measurement

Type — Parshall Flume, Fischer & Porter Type 10-F1940

Maximum discharge

730,000 gpd

Level sensor — Noncontact ultrasonic

Effluent Sampler

Refrigerated flow-proportional sampler, 24-hour, 5-minute intervals

EXHIBIT 1

Discharge Effluent Flow Diagram

TABLE 2
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SYSTEM COMPONENTS

Description

High BOD Storage System

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Volume	18,000 gallons in 4 4,500-gallon cells
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Effluent Sampler

Refrigerated flow-proportional sampler, 24-hour, 5-minute intervals

EXHIBIT 1

Discharge Effluent Flow Diagram

EXHIBIT 2
Specifications*

<u>Description</u>	<u>Page</u>
High BOD Transfer Pump	S1-S4
Existing High BOD Storage Tanks (NHT-1 & NHT-2) and Agitators (NHAG-1 & NHAG-2)	S5, S6
Equalization Sump (NHS-1)	S7, S8
Equalization Sump Agitators (NHAG-2 & NHAG-3)	S9, S10
Parshall Flume (FE-01)	S11, S12
Chemical Metering Pumps (NHP-2 & NHP-3)	S13
Effluent Sampler (NHAN-1)	S14, S15

*Where applicable, designations in parentheses, e.g. (NHAG-1), can be correlated with Drawing No. PP-12 for location of specified component.

T H E A U S T I N C M P A N Y
P R O C E S S D I V I S I O N
E N G I N E E R I N G S P E C I F I C A T I O N

P O S I T I V E D I S P L A C E M E N T P U M P S

Made By: RJP	Date: 11/22/94	Project No: PR-1025B
Chkd By: EDN	Date: 11/22/94	Spec. No: 1-NHP-1
Rev. No. 1	Date: 01/17/95	Item No: NHP-1
File No: N:\1025B\P MECH\NHP1.WK3		Page 1 of 2

Name: HIGH BOD TRANSFER PUMP

Quantity: ONE (1)

Service: CONTINUOUS, INDOORS

O P E R A T I N G C O N D I T I O N S

Liquid Pumped: SUGAR WASTE WATER @ Temp.:	70/160°F P.T.
US GPM @ P.Temp.: 9-28 GPM	Normal: 9-28 GPM 70/160°F P.T.
Viscosity P.T.: 1 cp	
SP GR @ P.T:	1.04
Vapor Pressure @P.T.:	0.21 PSIA
Discharge Pressure:	2 PSIG NPSH AVAIL: 32.3 FEET
Suction Pressure:	-1 PSIG NPSH REQ'D: 5.0 FEET
Differential Pressure:	3 PSI

P U M P S P E C I F I C A T I O N S

Vendor: GELBER INDUSTRIES	Proposal No: H016
Pump Mf'r: ECO	
Type: EXTERNAL SPUR GEAR PUMP	
Model: GA12-ACT-ZT24-T3	
RPM: 0-1200 RPM	
BHP @ Design: 0.6 BHP @ 2 PSIG	
Driver: VARIABLE SPEED, 0-1200 RPM	
Pump Gears: DUAL GEARS	
Bearing Type: INTERNAL SLEEVE	

M A T E R I A L S O F C O N S T R U C T I O N

Housing: 316 S.S.	Shaft & Pin: 316 SS
Drive Gear: HASTELLOY C	Wear Plates: CERAMIC
Idler Gear: TRIMMED TEFLON	Base Plate: CS
Bearings: TEFLON	

C O N S T R U C T I O N F E A T U R E S

External Relief Valve: NEPTUNE, MODEL RV-316-1, 3/4", 316 SS & TEFLON
External Relief Valve Pressure Setting: 60 PSIG
Mechanical Seal-INTERIOR Single: JOHN CRANE TYPE 9
Bearings: TEFLON
Flex. Cpl'g.: WOODS OR EQUAL Cpl'g. Guard: REQUIRED

T H E A U S T I N C I P A N Y
P R O C E S S D I V I S I O N
E N G I N E E R I N G S P E C I F I C A T I O N

P O S I T I V E D I S P L A C E M E N T P U M P S

Made By: RJP	Date: 11/28/94	Project No: PR-1025B
Chkd By: EDN	Date: 11/28/94	Spec. No: 1-NHP-1
Rev. No. 1	Date: 01/17/95	Item No: NHP-1
File No: N:\1025B\P MECH\NHP1.WK3		Page 2 of 2
Name: HIGH BOD TRANSFER PUMP		Quantity: ONE (1)

Service: CONTINUOUS, INDOORS

	Size	Rating	Fittings	Position
Suction-	1-1/2"	MFG.STD.	MNPT	SIDE
Discharge-	1-1/2"	MFG.STD.	MNPT	SIDE

D R I V E R D A T A

M O T O R

Manufacturer: RELIANCE			
Horsepower: 1.5	RPM: 0-1200	Frame:	
Type: GEAR RED./VARIDRIVE	Volts: 230/460	Hertz: 60	
Temp. Rise °C:	Phase: 3	Enclosure: TEFC WASHDOWN	
Lubrication: OIL	Ser.Fac: 1.0	Bearings: BALL	
Controller: RELIANCE SP500, NEMA 4X, WASHDOWN DUTY, 460 VOLT			

W E I G H T

Net Weight:	Pump, Base, Coupling	115 LBS
Shipping Wt:	Pump, Base, Coupling	125 LBS

S P E C I A L I N S T R U C T I O N S O R F E A T U R E S

1. MOTOR SHALL BE NON-OVERLOADING TO THE RELIEF PRESSURE.

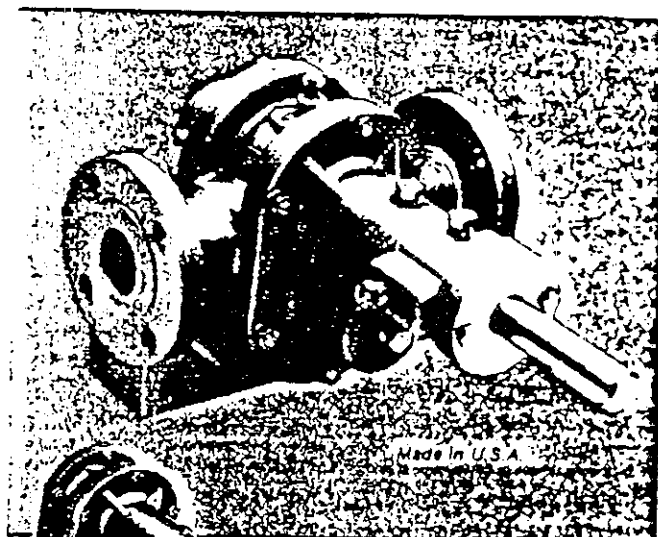
BULLETIN GA-12-88

Cost Reduced

JHP-1

GA12 Gearchem[®] Pump

Stocked In 316 SS, Alloy 20 and Alloy C.



This self-priming, external spur gear pump has 1 1/2-inch FNPT or BSPT, or 150 lb. raised face

ANSI horizontal ports, and will deliver flows up to 28 gpm. Maximum rated discharge pressure for this pump is 150 psig with metallic gears and to 100 psig with a combination of metallic and non-metallic gears. Designed for simplified maintenance, the pump may be quickly disassembled without the need to break piping connections. The GA 12 is designed for continuous duty industrial applications with clear, corrosive, non-abrasive fluids.

Metallic and non-metallic gears are machine generated. A variety of materials is available and an existing pump can be quickly converted to satisfy different service conditions. Combination metallic and non-metallic gear sets allow the pump to handle low viscosity and non-lubricating fluids at standard motor speeds. This capability provides reduced noise levels and eliminates the need for larger pumps operating at reduced speeds. All gear materials are non-sparking for use with hazardous fluids.

Pumps do not require periodic lubrication, since the pumped fluid provides the necessary lubrication and cooling. In addition to reducing maintenance, this feature eliminates the possibility of contamination of the pumped fluid.

Mechanical seals are available for the most demanding applications including single internal and double mechanical seals. Two packing box designs are also offered with a variety of packing material.

Because they are expressly designed for chemical service, Eco gear pumps do not include integral built-in by-pass or pressure relief valves. Designs with internal valves can cause heat build-up in the pumped fluid, resulting in accelerated corrosion rates, possible vapor binding or

even pump seizure. Eco recommends the use of externally mounted pressure relief valves, piped back to the fluid source. Eco can supply such relief valves in various metallurgies for many process requirements.

Standard features include bearing flush plugs and center housing drain connection. A center housing vent port is available as an optional feature. Additional accessories include bolt-on heating/cooling jackets, pressure relief valves and backpressure valves.

Pump components in all offered materials are stocked to provide quick delivery. A variety of constant or variable speed motors with electric or air power is also stocked for quick delivery of completely mounted and assembled pump packages. Pumps and replacement parts are also stocked in Europe.

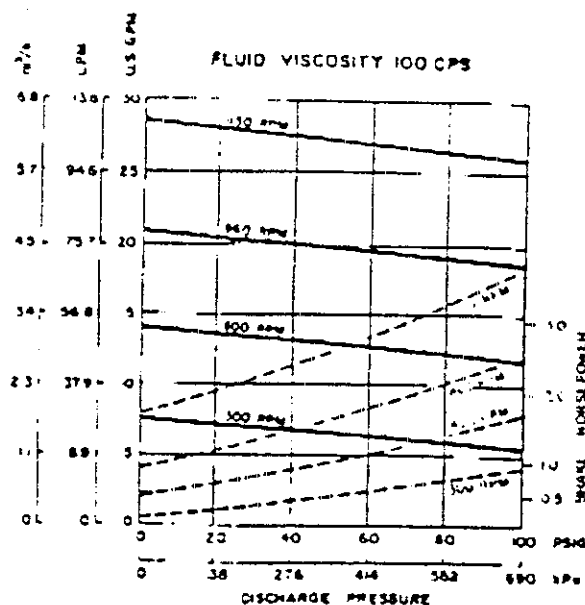
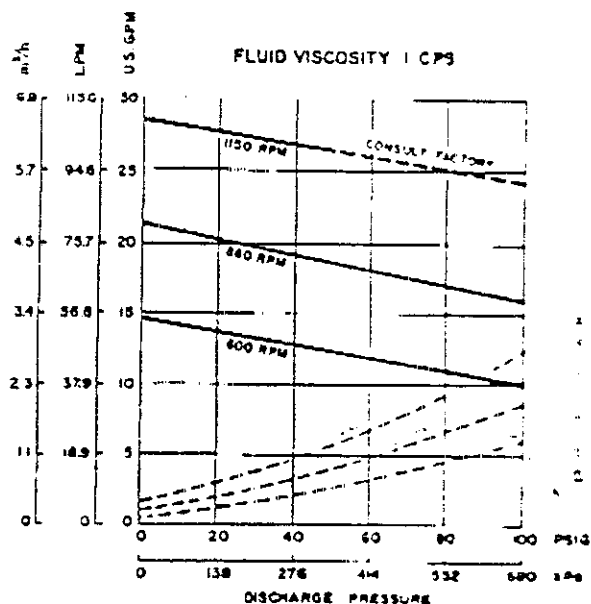
GENERAL SPECIFICATIONS

Port size and type	1 1/2-inch FNPT or BSPT; 150# ANSI RF flange
Port location	Side inlet and outlet
Direction of rotation	Bidirectional
Theoretical displacement	2.792 gal/100 rev (105.7 cc/rev)
Drive shaft diameter	1-inch
Maximum discharge pressure*	150 psig (1050 kPa)
Minimum system pressure	0.1 mm Hg (abs)
Maximum speed	1150 rpm
Capacity at 1150 rpm, 0 psi†	28 gpm (6.3 m ³ /hr)
Maximum viscosity*	10,000 cP
Minimum viscosity	None
Standard temperature limits	-50°F (-48°C) to 600°F (315°C) with metallic gears or carbon idler -50°F (-48°C) to 120°F (49°C) with non-metallic gears
Fluid pH range	0-14
Bearing type	Internal sleeve
Bearing lubrication	By pumped fluid
Packing arrangements	Lantern ring packing box
Mechanical seals	Single internal, double
Approximate weight	39 lbs (17.6 kg) pump only
*Consult factory for approved application above 100 psi. †At nominal viscosity. ‡Higher viscosities possible with speed reduction.	

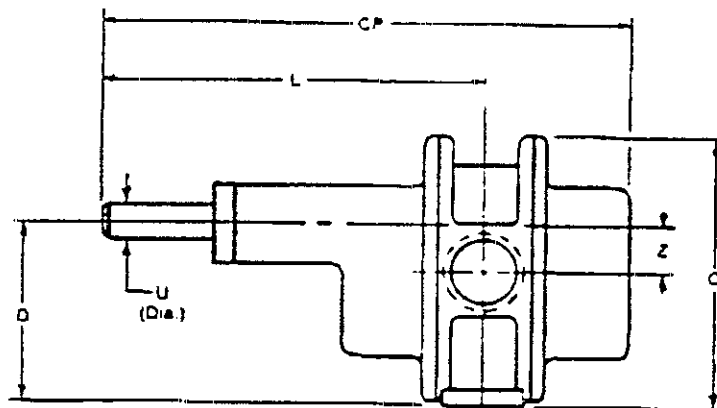
Eco
Pulsafeeder

GA12 Gearchem Pump

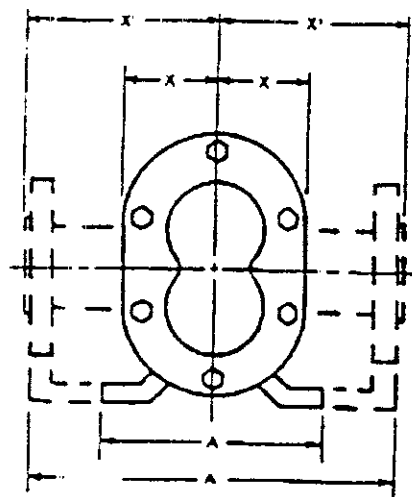
TYPICAL PERFORMANCE



DIMENSIONS — UNMOUNTED PUMP



GA 12 — 1 1/2" — NPT OR BSPP GA 12 — 1 1/4" — 150# ANG FLANGES



MATERIALS OF CONSTRUCTION

Housings, shafts and shaft fittings	316 SS, Alloy 20, Alloy C
Drive gear	Alloy C
Idler gear	Alloy C, TFE (GF), carbon
Bearings	Carbon, TFE (GF)
Wearplates	Carbon, TFE (GF), ceramic
Housing O-rings	TFE, TFE-coated stainless steel
Packing	TFE, Grafoil*
Seal mating faces	Carbon/pure ceramic (std) Carbon/metallic

DIMENSIONS

PORTS	A/A'	CP	D	L	O	U	X/X'	Z
1 1/4" Threaded	6	15 1/4	5	11 1/4	7 1/2	1	2 1/4	1 3/4
	152.4	384.2	127.0	285.8	190.5	25.4	63.5	30.2
1 1/2" Flanged	9 1/8	15 1/4	5	11 1/4	7 1/2	1	5	1 3/4
	239.7	384.2	127.0	285.8	190.5	25.4	127.0	30.2

*Registered trademark of Union Carbide

ECO
Pulsafeeder

77 RIDGELAND ROAD
ROCHESTER, NY 14623
(716) 424-5800 TELEX 6854133
FAX: (716) 424-5619

Gelber Industries

Fluid handling products and engineering
1001 Cambridge Dr. Elk Grove Village, IL 60007-2433
Phone 708/437-4500 Fax 708/437-2008

Manufacturers of Metering Pumps, Process Pumps and Systems

Printed in U.S.A.

TO: SY BROWN
DAVID BANHOFF
The Austin Co.

708-391-4546

FROM: PAUL TRUSILLO
AUSTIN (NORTHAMPTON PLANT)

NHT-1
NHT-2
N#RG-1
N#RG-2

FINISH Internal welds ground and polished to 150 grit min.
External welds ground smooth to 100 grit finish
NOTE: Scotch-brite finish outside on all leg
support welds

ACCESSORIES 1 - 18" Dia. manhole in the top head with hinged
cover, gasket and holdowns
1 - T304 SS External ladder with extended step

SPECIFICATIONS - 6000 GALLON VERTICAL TANK

- ONE 6000 Gallon Vertical SS Single Shell CVL Storage Tank for Coca-Cola Syrup
(Rated capacity is to the top head seam)
- DIMENSIONS 110" ID x 135" straight side x approximately ~~167-172~~ ^{193.5 WITHOUT} overall height ^{AGITATOR}
- MATERIAL T304 SS, #4 finish inside, 100 grit out
Shell - 12 ga.
ASME Top head - 12 ga.
ASME Bottom head - 10 ga. ^{214.5 WITH ALITATOR}
- MANHOLE 1 - CB Std. 16" x 20" Manhole with sample valve in the sidewall T304 SS grip over the manhole door
- OUTLET 1 - 2½' #14I Center bottom outlet (less valve) - 12" outlet height from the floor to the bottom of the tank outlet ferrule
- LIFTING LUGS 2 - T304 SS heavy duty lifting lugs
- VENT 1 - Std. 3" SS "C" Style screened vent in the top head
- AGITATION 1 - Vertical mechanical agitator with ½ length non-removable sidewall baffle "C" Style
2 HP Single speed motor, Oper. @ 58 RPM 230/460/60/3 (less switch)
Removable bottom bearing (nylon) - Anti-swirl baffle (removable type) over the outlet - T304 SS motor supports - mill finish - Scotch-brite finish on motor support welds
- INLETS 1 - 2½" "S" Conn. welded-in the top head for sugar
1 - 1½" "S" Conn. welded-in the top head for water
1 - 1" "S" Conn. welded-in the top head for concentrate
- CIP 1 - CIP Spray Unit (SB-1) welded-in the top head (304 SS) 1½" "S" Conn. on the spray unit
- ACCESSORIES Full length liquid level gauge with pyrex tube and SS guard CIP attachment for the liquid level gauge
SS scale strip holder with scale strip
Projectile well with dial therm. (304 SS)
- LEGS 6 - T304 SS C-Type leg supports with MS leg couplings
- SS trimmed
6 - 3" IPS T304 SS adjustable legs with locking rings and spun ball feet

PROCESS DIVISIO
VESSEL SPECIFICATION

Made By: DFB Date: 11/14/94
Chkd By: SAB Date: 11/20/94
Rev. No: A Date: 12/05/94

Project No: PR-1025A
Item No: TXS-1

Page 1 of 2

Item Name: EQUALIZATION SUMP No. Req'd: (1) ONE
Function: MIX EFFLUENT DISCHARGE
Description: LINED-CONCRETE OUTFALL SUMP
Service: CONTINUOUS
Vessel Type: ATMOSPHERIC

OPERATING CONDITIONS			HEATER/COOLER DESIGN	
VESSEL	MAX. COND.	HEAT EX	Jacket Type: Mat'l: NONE	
LIQUID	Fluid		Size	Length
1.0-1.01	Specific Gravity		S. Area: N.A.	dp: N.A.
ATM.	Oper. Pressure		U	LMTD
40-110°F	Temp. In Min/Max		Design Pres & Temp: ATMOSPHERIC	
40-70°F	Temp. Out Min/Max		Insulation: NONE	
18000 GAL	Working Capacity		Corr. Allow.: NONE	
18000 GAL	Nominal Capacity		BAFFLES	

Location: OUTSIDE-INGROUND

Number: NONE Length:
Width: Thick.:
Mat'l:

DESIGN INFORMATION

Design Pressure & Temperature
Pressure: ATMOSP. @110°F
Vacuum: N.A.
Construction Codes & Regulations
ASME Stamp Req'd: NO
Sanitary: NO
Mfr's Standard: YES
Other: FOUR 4500 GAL. COMPARTMENTS

Mixer Item No.:TX-AG2, TX-AG3

VESSEL DESIGN
Length: 46' **
Width: 11' **
Depth: 6' WETTED-8'DEEP **
Vessel Mat'l: CONCRETE
Liner Mat'l: EPOXY-"OVERKOTE"(1)
Top Head FLAT ***
Bottom Head: FLAT
Corr. Allow.: NONE
Insulation: N.A.
Legs: ON SITE CAST CONCRETE
Gasket: **
Bolts & Nuts: 316 SS

NOZZLES			
MARK	SIZE	TYPE	FUNCTION
A	14"	FLANGED	LIQUID INLET
B	14"	FLANGED	LIQUID OUTLET
C	42"	MFG.STD.	ACCESS PLATE
D	42"	MFG.STD.	ACCESS PLATE
E	48"	MFG.STD.	ACCESS PLATE
F	48"	MFG.STD.	ACCESS PLATE
G	2"	FLANGED	pH PROBE
H	2"	FLANGED	pH PROBE
I	2"	FLANGED	LEVEL PROBE
J	2"	FLANGED	FLOW ELEMENT
K	1"	FLANGED	ACID INLET
L	1"	FLANGED	CAUSTIC INLET

NOTES:

- 1."OVERKOTE" IS A RUST-OLEUM PRODUCT OR ENGINEERING APPROVED EQUIVALENT.
2. AGITATOR SUPPORT BEAMS MAYBE REQUIRED. ** VENDOR TO SPECIFY

THE AUSTIN COMPANY
PROCESS DIVISION
VESSEL SPECIFICATION

S-1

Made By: DFB Date: 11/14/94
Chkd By: SAB Date: 11/20/94
Rev. No: A Date: 12/05/94

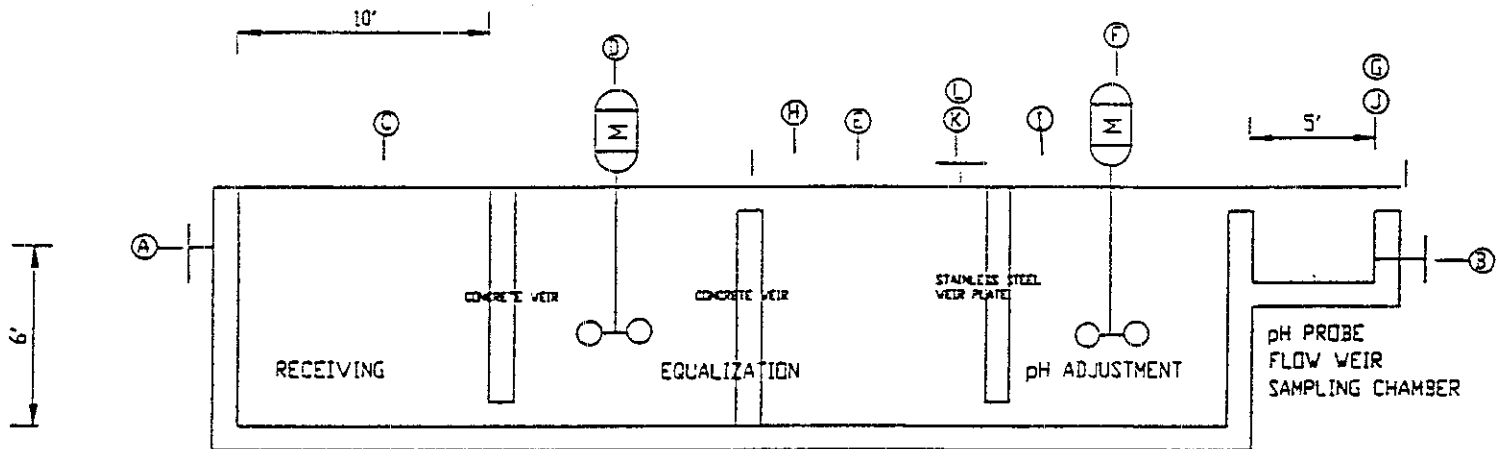
Project No: PR-1025A
Item No: TXS-1

Page 1 of 2

Item Name: EQUALIZATION SUMP

No. Req'd: (1) ONE

CHAMBER	FUNCTION	DIMENSIONS			VOLUME
		L	W	D	
1	RECEIVING	10'	10'	6'	4476 GALS.
2	EQUALIZATION	10'	10'	6'	4476 GALS.
3	EQUALIZATION	10'	10'	6'	4476 GALS.
4	pH ADJUSTMENT	10'	10'	6'	4476 GALS.
5	MEASUREMENT	10'	10'	4'	N.A.



ACID-CAUSTIC BARRIER COATING APPLIED AFTER CASTING CONCRETE

THE AUSTIN COMPANY
PROCESS DIVISION
AGITATOR SPECIFICATION

AGIT2.WK3

Made By: DFB Date: 10/27/94
Chkd By: SAB Date: 11/07/94
Rev. No: Date:

Project No: PR-1025B
Item No: AG-2,AG-3
Page 1 of 2

Item Name: EQUALIZATION SUMP AGITATORS No. Req'd: TWO (2)

VESSEL: Item No.	
Depth:	10 FEET
Length:	10 FEET
Width:	10 FEET
Top Head:	FLAT
Bottom Head:	FLAT
Baffles:	FOUR
Coils:	NONE
Materials:	316 SS
Design Press.	ATM.
Working Cap.:	7,100 GALS.
Nominal Cap.:	7,100 GALS.
Mounting:	I BEAM-TOP
Sparger:	NONE

OPERATING CONDITIONS

Mixer Function: MIX FOR pH ADJUSTMENT, MIX FOR EQUALIZATION
Service: CONTINUOUS

Mixer To Be Operated During Filling Or Emptying: YES

Materials To Be Mixed: SOLUBLE SOLIDS

Component	Susp Solids	Sol Solids	Liquid	Lbs or Gal	Wt./Vol. %
A	---	4%	96%	9.0 LB/GAL.	1.00
---	---	---	---	---	---
---	---	---	---	---	---
Sp.Gr. Sol	---	Sp.Gr. Sol.	1	Sp.G. Slurry	1
Visc. Sol.	---	Visc. Slurry	1	Oper. Temp.	70°F
Part. Size	---	Settling Vel	N.A.	Oper. Press.	ATM.
Mat'l Foaming:	NO	Type of Mix.	SUSP.	Mixing Charac.	---

MIXER-DRIVER DATA *

Type	Mounting: TOP FLANGE	No. Impellers	**
Impel. Type: IMPELLER	No. Blades: THREE (3)	Diameter	**
	Steady Bearing: **	Stabilizer Ring:	**
RPM: **	Mat'l Const.: 316 SS	Shaft Seal:	**
Driver:ELECTRIC MOTOR	Reducer: YES **		

Motor Horsepower, Hp.: 25 **
Electric Supply: 460/240/60/3
Motor Enclosure: TEFC

* To be checked in final engineering ** Vendor to specify or confirm

T H E A U S T I N C O M P A N Y
P R O C E S S D I V I S I O N
A G I T A T O R S P E C I F I C A T I O N

AGIT2.WK3

Made By: DFB Date: 10/27/94

Chkd By: SAB Date: 11/07/94

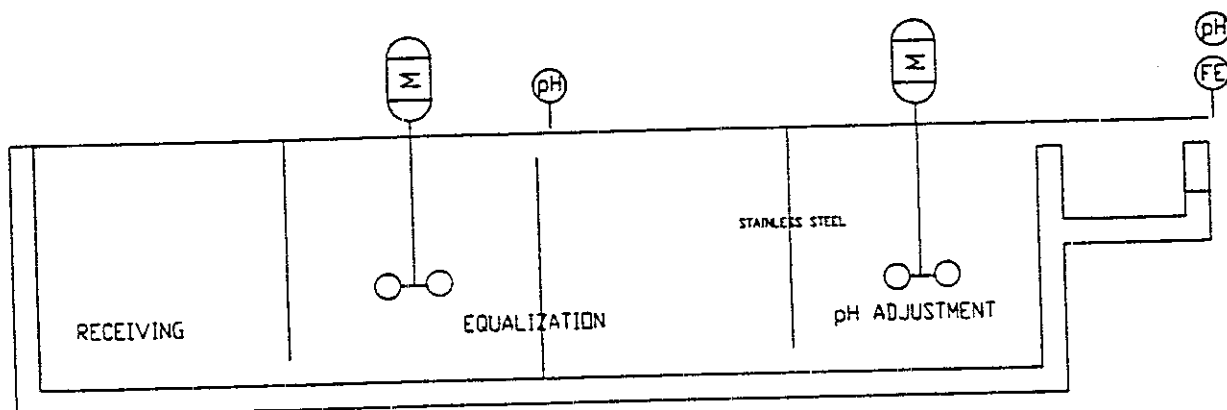
Rev. No: Date:

Project No: PR-1025B

Item No: AG-2,AG-3

Page 2 of 2

Item Name: EQUALIZATION SUMP AGITATORS No. Req'd: TWO (2)



THE AUSTIN COMPANY
PROCESS DIVISION
ENGINEERING SPECIFICATIONS

TXPFLUME.WK3

P A R S H A L L F L U M E

Made By: DFB

Date: 12/02/94

Project No: PR-1025B

Chkd By: SAB

Date: 12/02/94

Item No: FE-01

Rev. No:

Date:

Page 1 of 1

Name: PARSHALL FLUME**QUANTITY: ONE (1)****Service: CONTINUOUS**

O P E R A T I N G C O N D I T I O N S

Liquid Pumped: SUGAR WASTE WATER @ Temp.: 70/120°F
 Viscosity: 1-2 * cp
 Sp. Gr.: 1.0-1.01 *
 Location: UNDERGROUND SUMP
 Throat Width: 3"
 Maximum Discharge: 730,000 GPD
 Maximum Head: 13 INCHES

F L U M E S P E C I F I C A T I O N S

Flume Manufacturer: FISCHER & PORTER **
 Flume Type: TYPE 10-F1940 PARSHALL FLUME
 Level Sensor: NON CONTACT
 Type: ULTASONIC HEIGHT SENSING **
 Design Criteria: BASED ON DATA CONTAINED IN WATER
 MEASUREMENT MANUAL (SECOND EDITION)
 PUBLISHED BY THE UNITED STATES
 DEPARTMENT OF INTERIOR, WATER AND
 POWER RESOURCES SERVICE.

M A T E R I A L S O F C O N S T R U C T I O N

Flume: FIBERGLASS REINFORCED POLYESTER RESIN **
 ALT.: CORROSION RESISTANT METAL-STAINLESS STEEL
 Construction: ONE PIECE FABRICATION **

C O N S T R U C T I O N F E A T U R E S

Options: REMOTE STILLING BASIN
 Connection: 2" NPT FITTING **
 Brackets: MOUNTING PLATE FOR ULTRA SONIC LEVEL SENSOR **

S P E C I A L I N S T R U C T I O N S O R F E A T U R E S

Estimated Weight: 35 POUNDS **

* TO BE DETERMINED IN DETAILED ENGINEERING.

** DENOTES VENDOR IS TO SPECIFY/VERIFY.

FET-01

CONTROL EQUIPMENT COMPANY, inc.

TECHNICAL SALES REPRESENTATIVES

PHONE: 404-427-8778
FAX: 404-427-0416800-A KIRK RD.
MARIETTA, GEORGIA 30060

January 20, 1995

Mr. Jim Doss
The Austin Company
48 Perimeter Center East
Atlanta, GA 30346

Dear Mr. Doss:

Subject: CEC Quotation MAR21617
Fischer & Porter Flow Products

Confirming our telephone conversation of 1/17, we are pleased to quote the following per your request:

F&P Transmitter 50US3143BBC \$ 2155
Spec.No. IS-603-1 / Item # FET-01

NOTE: There is a discrepancy between part # given in spec where the final "C" indicates a transducer FLANGE mounting and the requirement for a pipe mounting kit. The price quoted above is for the flange mount called out by the part number. If you do not need this flange mount, you can change the final letter to "B" for pipe mounting with 25' cable and reduce the price by \$ 115.00.

F&P Parshall Flume 10F11940AXAD11 \$ 831
Spec.No. IS-603-2 / ITEM FE-01

F&P Parshall Nested Flume Type 10F1940 \$ 2615
Project No. PR-1025A Item # FE-01

Note: This is quoted without the stilling well. If the stilling well is required, add \$ 667.00 to the price.

Delivery on the transmitters is 4 weeks on the Parshall flumes 5-6 weeks.

FOB Warminster, PA
Freight Prepay and add
Terms Net 30 days

BRANCH OFFICES * SAVANNAH GA * GREENEVILLE, TN * CHATTANOOGA, TN
PHONE: 815-639-6460
FAX: 912-897-9433 815-639-5179 615-842-1162

(24)

THE AUSTIN COMPANY
PROCESS DIVISION
ENGINEERING SPECIFICATION

S-1

Made By: RJP Date: 11/28/94
Chkd By: EDN Date: 11/29/94
Rev. No: A Date: 11/29/94
File No: NHP2.WK3

Project No.: PR-1025B
Spec. No: 1-NHP-2
Item No: NHP-2, NHP-3
Page 1 of 1

Item Name: CHEMICAL METERING PUMPS

Quantity: TWO (2)

Service: CONTINUOUS, INDOORS

Item Name:	CAUSTIC PUMP	ACID PUMP
Item No:	NHP-2	NHP-3
Fluid Pumped:	50% CAUSTIC	85% PHOSP. ACID
	WATER CAUSTIC	WATER ACID
Normal Flow, GPM	1-10 .3-3	1-10 .3-3
Maximum Design Flow, GPM	** **	** **
Pumping Temperature, °F	70 70	70 75
SP. GR. @ Pump Temp.	1.0 1-1.5	1.0 1-1.6
Viscosity @ pump Temp., cp	1 1.5	1 30
Suction Pressure, PSIG	5 1.5	5 1.5
Discharge Pressure, PSIG	15 15	15 15
T.D.H., Feet	PRES. RELIEF @80	PRES. RELIEF @80
Pump Manufacturer	MILTON ROY	MILTON ROY
Type of Pump	DUPLEX PISTON	DUPLEX PISTON
Pump Model No.	METERING PUMP	METERING PUMP
Type of Seal	MODEL B,	MODEL B,
Type of Drive	3-1/2" DIA.	3-1/2" DIA.
Stroke Adjustment	PACKING	PACKING
	VARIABLE SPEED,	VARIABLE SPEED,
	ELECTRIC	ELECTRIC
	ELECTRIC	ELECTRIC
Motor Horsepower	**	**
Electrical Supply	480V, 3 PH., 60HZ	480V, 3 PH., 60HZ
Motor Enclosure	T.E.F.C.	T.E.F.C.
Materials of Construction		
All Pump	316 SS	316 SS
Packing	MFG. STD.	MFG. STD.
Baseplate	MFG. STD.	MFG. STD.
Coupling	FLEXIBLE	FLEXIBLE
Seal Fluid	NONE	NONE
Pump RPM	** 1750	** 1750

NOTES:

FUNCTION: THE PUMP WILL PROVIDE CONTINUOUS DILUTION AND FEED OF CONCENTRATED CAUSTIC AND PHOSPHORIC ACID. THE UNIT IS TO INCLUDE AN OUTPUT PULSE FEED BACK LOOP. THE PUMP STROKES WILL BE USED FOR TOTALIZING.
** VENDOR TO SPECIFY OR CONFIRM.

PROJECT NO: PR-1025P
OWNER: COCA-COLA
LOCATION: NORTHAMPTON, MA

THE AUSTIN COMPANY
PROCESS DIVISION
QUOTATION ANALYSIS

SPEC. NO: NHSAMP-1
ITEM NAME: REFRIG. EFFL. SAMPLER
INQUIRY NO: JANUARY 12, 1995

S-1

FILE NO: QA-SAMPB.WK1

MECHANICAL PROCESS ITEM PAGE 1 OF 1

VENDOR		TEMPLETON ENGINEERING SALES
PROPOSAL NO./DATE		JANUARY 12, 1995
VENDOR NAME/TELEPHONE NO.		ALLEN WALKER (404) 6625890
AUSTIN SPECIFICATION		
OPERATING CONDITIONS Liquid Pumped Viscosity P.T.: Sp. Gr. @ P.T.: Location: Communications Interface:	SUGAR WASTE WATER 1-5 CP 1.0-1.04 OUTSIDE RS-232	
SAMPLER SPECIFICATIONS Pump Manufacturer: Pump Type Level Sensor: Type Refrigeration Temperature: Sample Volume: Timer Variability Timer Variability Timer Cycles: Control Compartment:	** PERISTALTIC NON CONTACT ULTRASONIC SENSING 4°C PROPORTIONAL TO FLOW RATE 10-3785 ML 5 MINUTE INTERVALS 24 HOUR - 5 MINUTE INTERVALS TEMPERATURE CONTROL TO 40°F	AMERICAN SIGMA PERISTALTIC 25' X 3/8" TUBING NON CONTACT ULTRASONIC SENSING PROPORTIONAL TO FLOW RATE 3 GALLON FULL CONTAINER SHUT OFF 24 HOUR - 5 MINUTE INTERVALS TEMPERATURE CONTROL TO 40°F
MATERIALS OF CONSTRUCTION Enclosure: Sampler: Pump: REFRIGERATOR	CORR. RESISTANT CORR. RESISTANT NON CONTACT-SS OR PLASTIC	FIBERGLASS NON CONTACT PLASTIC NON CONTACT PLASTIC 316 SS. TEFLON/SS STRAINER
CONSTRUCTION FEATURES Electrical Voltage: Enclosure Mechanical Seal:	115 VOLTS, 60 CYCLE, 1 PHASE NEMA 4X INTERIOR-GASKETING	115 VOLTS, 60 CYCLE, 1 PHASE NEMA 4X INTERIOR-GASKETING
FEDERAL, STATE & LOCAL TAXES		\$3700 SIGMA 900 SAMPLER
ESTIMATED FREIGHT:		100 LBS
F.O.B		PREPAY & ADD
TOTAL PRICE		
DELIVERY		4-5 WEEKS
DRAWING SUBMITTAL		NOT REQUIRED-STD UNIT

RECOMMENDED FOR PURCHASE: TEMPLETON ENGINEERING SALES,
REMARKS:

APPROVED FOR PURCHASE: _____
(PROJECT MANAGER)

DATE: _____

APPROVED FOR PURCHASE: _____
(OWNER)

DATE: _____

S-

T H E A U S T I N C M P A N Y
P R O C E S S D I V I S I O N
E N G I N E E R I N G S P E C I F I C A T I O N S

NHSAMP.WK3

E F F L U E N T S A M P L E R

Made By: DFB	Date: 12/01/94	Project No: PR-1025B
Chkd By: SAB	Date: 12/01/94	Spec. No: NHSAMP-1
Rev. No:	Date:	Item No: NHSAMP-1
		Page 1 of 1

Name: REFRIGERATED EFFLUENT SAMPLER	QUANTITY: ONE (1)
Service: CONTINUOUS	

O P E R A T I N G C O N D I T I O N S

Liquid Pumped: SUGAR WASTE WATER @ Temp.: 70/120°F P.T.
Viscosity P.T.: - 1-5 cp
Sp. Gr. @ P.T. 1.0-1.04 *
LOCATION: INSIDE
COMMUNICATIONS INTERFACE: RS-232 **

S A M P L E R S P E C I F I C A T I O N S

PUMP MANUFACTURER:	**
PUMP TYPE	PERISTALTIC **
LEVEL SENSOR:	NON CONTACT
TYPE:	ULTRASONIC SENSING **
REFRIGERATION TEMPERATURE:	4 °C
SAMPLE VOLUME:	PROPORTIONAL TO FLOW RATE 10-3785 ML **
TIMER VARIABILITY:	24 HOUR - 5 MINUTE INTERVALS
TIMER CYCLES:	MINIMUM 24 PER DAY
CONTROL COMPARTMENT:	TEMPERATURE CONTROL TO 40°F

M A T E R I A L S O F C O N S T R U C T I O N

Enclosure: CORRISON RESISTANT PLASTIC OR METAL
Sampler: CORROSION RESISTANT - PLASTIC OR STAINLESS
Pump: NON CONTACT OR
CONTACT-STAINLESS OR PLASTIC

C O N S T R U C T I O N F E A T U R E S

Electrical Votage: 110 VOLT, 60 CYCLE, 1 PHASE
Enclosure: NEMA 4X
Mechanical Seal-INTERIOR GASKETING

S P E C I A L I N S T R U C T I O N S O R F E A T U R E S

* TO BE DETERMINED IN DETAILED ENGINEERING.
** DENOTES VENDOR IS TO SPECIFY/VERIFY.